

The Cary Arboretum



of The New York Botanical Garden

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Cary Arboretum: Fun for Everyone!

text and photo by Robin Parow-Place

Summer brings with it the desire to be outdoors, and perhaps the time to pursue botanical and horticultural interests as well.

At the Cary Arboretum, visitors are encouraged to advance their knowledge of plants, whether it be independently or through formal education programs.

As a member of the Arboretum, you and your guests are entitled to free daily access to the grounds, its internal road system, trails, and the Fern Glen. Formal tours through the greenhouse complex and solar-heated Plant Science Building are also offered free to members (cost for non-members is \$1.50 for adults, 75¢ for children and senior citizens).

During the summer months, the Fern Glen is especially attractive, with its meandering paths, boardwalks overlooking the Wappingers Creek, and resting stations for reading or contemplation. A product of time, generous financial contributions, and arduous work by many students and volunteers, this glen will soon display the largest collection of naturalized ferns in the northeastern United States. Ferns native to this area, as well as species imported from Europe, Japan, the Soviet Union, Mexico, and other areas of North America are individually identified with embossed brass labels. The Arboretum's Fern Glen is an extension of the research collections and the glorious indoor fern display in the Enid A. Haupt Conservatory of the New York Botanical Garden, Bronx.

Driving along the five miles of internal road system, take note of the tree avenue beginning at the intersection of Fowler Road and Redwing Drive, and continuing across Filkins Bridge to West Flagler Drive and N.Y. Highway 82. Designed to illustrate form, leaf color, texture, and shade effects of specific trees, the specimens are planted in matched pairs 60 feet apart on either side of the paved road. Included in the collection are Mountain Ash (*Sorbus alnifolia*), Chinese Elm (*Ulmus parvifolia*), Bald Cypress (*Taxodium distichum*), Dawn Redwood (*Metasequoia glyptostroboides*), Larches (*Larix decidua*), Ginkgo (*Ginkgo biloba*), and many others, including several varieties

of maple and oak. Pairs of Zelcova can also be found here, which has the same leaf-shape and upright fountain growth of the American Elm, but is relatively insect and disease resistant.

For a diverse nature walk of about one mile, try the Wappingers Creek Trail which begins behind the Gifford House Education and Visitor Center, Route 44A (Sharon Turnpike). As a "path for all seasons," it traverses a variety of land and vegetation types, and even provides a few items of memorabilia from the Gifford family, who formerly owned the land. At the beginning of this trail is an area once used actively for farming. Here, an abandoned corn harvester, cultivator, hayrake, disk cultivator, and seed drill have become part of the landscape, blending their old, stark metal skeletons with

embellishments of honeysuckle, wild cherry and locust.

During the summer months, the trail passes through meadows of goldenrod, bergamot, and wild marjoram. A swamplike area clearly marked by purple loosestrife leads to a savannah-like meadow covered with little bluestem grass and scattered juniper trees. The trail then continues toward a stream floodplain rich in hornbeams (*Carpinus caroliniana*), as well as sycamore trees (*Platanus occidentalis*) that can be identified by their mottled, patchy bark. Look in the Wappingers Creek for trout (no fishing without a permit!), crayfish and many species of amphibian, reptile and insect life. Examples of plant life in the creek include

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Attention Photographers:

THE FIRST SEASONAL PHOTO CONTEST IS UNDERWAY!

A cash prize of \$50.00 will be awarded for the best set of ten 35mm color slides taken by an Arboretum volunteer, "Friend" or staff member as selected by an independent judge. Cash prizes of \$25.00 and \$15.00 will be awarded to second and third place entries, respectively.

Plantlife, wildlife, landscapes, people, and architectural studies are among the subjects acceptable for the contest. All entries will become the property of the Cary Arboretum. Contestants may obtain tax donation slips for non-winning entries if they wish.

One or more groups of slides may be submitted. Each should be carefully labeled as to subject, date and photographer.

Contest Rules

1. Slides submitted must be dated between June 1st and September 1st, 1981.
2. Visitor access rules apply to all photographers. Please stay on internal roads or marked trails when traveling on Arboretum grounds. Road and trail maps can be obtained at the Gifford House Education and Visitor Center, Route 44A (Sharon Turnpike).
3. Submit entries before September 15, 1981, to Robin Parow-Place, c/o Cary Arboretum, Box AB, Millbrook, New York 12545. (Entries can be delivered by that date to the Plant Science Building, Route 44A).

For more information, contact Mrs. Place at (914) 677-5343.

**Cary Arboretum:
Fun for Everyone**
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Follow the paths for an educational nature walk.

scouring rush, watercress and various species of fungi.

In the wet woodland that follows, with abundant beech and hemlock trees, ferns, wildflowers, lichens, mosses and colorful mushrooms, the hiker finds a popular feeding place for many species of birds. An alert walker can easily spot bluejays, nuthatches, chickadees and woodpeckers that abound there.

The trail then winds through a man-made pine forest filled with white pine trees and ground cedars, leading to a field and Scotch pine allée which returns hikers to the Gifford House.

Trail maps for this and two other Arboretum nature trails can be obtained at the Gifford House Education and Visitor Center and the Plant Science Building.

Two major gardens are under construction this summer, and are worth a glance when you visit the Arboretum.

The Gifford Garden (see related story, this issue) behind the Gifford House, is expected to be one of the outstanding perennial gardens in the area. It will be accessible in most seasons to all visitors, including the handicapped.

The Rhododendron Dell under development near the Plant Science Building will eventually display every species of rhododendron that can be grown in the Arboretum's climate. A major horticultural addition to Dutchess County, the collection will complement the rhododendron valley being developed in the Bronx.

With the advent of summer and the gardening that comes with it, visit the Gifford House Gift and Plant Shop and look over the selection of gardening tools and books. There you will also find unusual houseplants, interesting gift items and a selection of New York Botanical Garden souvenirs. Open Tuesday through Friday, 11:00 a.m. to 4:30 p.m., and weekends, 1:30 to 4:30 p.m., the shop is located on the first floor of the Gifford House. Members receive a 10% discount on all purchases.

If your interest in gardening is also academic, remember that, as an Arboretum member, you have free access to the circulating collection in the library. Books on horticulture, botany, environmental arts, alternative energy, wildlife and more can be borrowed for up to four weeks. The library, open Monday through Friday, 8:30 a.m. to 4:30 p.m., (closed for an hour at noon) is located on the first floor of the solar-heated Plant Science Building, Route 44A (Sharon Turnpike).

Tillman Evaluates Mexican Program

In an attempt to establish a biosphere reserve on a tract of land in Tamaulipas, the Instituto de Ecologia of Mexico recently commissioned Arboretum Ecologist Dr. Robert (Gus) Tillman to evaluate and submit a report on the ecology of the region and its resources.

The report, necessary in order for the 50,000-acre tract of land to earn the status as an ecological reserve, will be presented to the Mexican government and the government of the State of Tamaulipas. UNESCO (United Nations Educational, Scientific and Cultural Organization) will make the final decision to designate the mostly forest area as a reserve. With UNESCO's approval, the land will be available for ecological studies and research by scientists from all member nations.

Questions as to whether the land would become a national park or a biosphere have arisen between the state of Tamaulipas and the Instituto de Ecologia. The government of Tamaulipas suggests that, as a national park, visitation to the area will be encouraged. The Mexican government's Instituto de Ecologia, however, asserts that the development of a park could be more disruptive to the land and to its inhabitants, some of whom have lived in the Sierra Madre Oriental Mountains for 50 years.

"The area," says Dr. Tillman, "is the northernmost extension of the moist tropical

Indoors or out, there is something of interest to environmentalists of all ages at the Cary Arboretum. When visiting, be sure to pick up a copy of the "Visitor's Guide," which contains a map of the grounds and descriptions of the land. This can be obtained at both the Gifford House Education and Visitor Center, and the Plant Science Building.

The Arboretum staff asks all visitors to stay on marked trails and paved roads. Visitor access to unmarked areas could be detrimental to on-going ecological studies, or could damage the ecosystems that are preserved there for future generations.

Picnic tables, located at the Gifford House, are available to all visitors. No fires are permitted. Bicycling is permitted on the internal road system on Sundays during visiting hours. Please do not bring dogs to the Arboretum.

Before touring the grounds, non-members of the Arboretum are asked to obtain a free permit at the Gifford House. Visiting hours to the Arboretum are as follows:

Monday - Friday: 8:30 a.m. to 4:30 p.m. (Tours through the greenhouse complex and solar-heated Plant Science Building on Wednesdays, 1:30 to 3:30 p.m.)

Saturday: Closed

Sunday: 9:00 a.m. to 5:00 p.m. (Tours through the greenhouse complex and solar-heated Plant Science Building are held 1:30 to 3:30 p.m.)

forest, and includes many neotropical species usually found in areas of Colombia, Guatemala and Venezuela." In contrast to this, many species of northern plants, including sweet gum, magnolia and poison ivy, which thrive in the Smoky Mountains and eastern United States, can also be found there at their southernmost limits.

The land is mostly uninhabited, with farming and selected logging done in small amounts. Gomez Farias, an area of lush forest which receives up to 70 inches of rain annually, has the potential of becoming the site of much ecological research.

If designated as a biosphere reserve, the land will continue to be worked and owned by its inhabitants, but under strict regulations, so it can be used as an ecological study site.

"I feel confident that the land will be appropriated as a biosphere reserve," comments Dr. Tillman, adding that he may return to the area if and when development of the land for ecological studies begins.

There are more than 30 biosphere reserves in the United States, many of which correspond with National Parks. Among them are Organ Pipe Cactus National Monument, Rocky Mountain National Park, Everglades National Park, Virgin Islands National Park, and Yellowstone National Park.

Book Reviews

by Betsy Calvin, Librarian

Wallace, David Rains. *Idle Weeds – The Life of a Sandstone Ridge*. San Francisco: Sierra Club, 1980.

David Wallace's *Idle Weeds* outlines the passing of four seasons in a small area of woodland surrounded by suburbia, a "remnant wilderness" in eastern Ohio. The animal communities are filled with raccoons, deer, shrews, warblers and crows, whose lives are detailed in a fascinating manner. The flora of the ridge is a constantly changing panorama of color and variety. Even with the misuse of the land over the past few centuries, the author sees the ridge as having an important effect on the population around it. He states, "Even if the ridge becomes the only green spot in a hundred square miles of skyscrapers, its fundamental value will not be in rarity, in diversion from the human world, but in commonness, in union with the biosphere on which the human world depends." This book is available for loan to Members from the Library's Circulating Collection.

Hora, Bayard, Ed. *The Oxford Encyclopedia of Trees of the World*. Oxford: Oxford University Press, 1981.

This volume is divided into three segments, including a discussion of the anatomy and morphology of trees, a description of 149 genera, and a section explaining the

importance of certain trees in their geographical area. Distribution maps, a key, glossary and indexes to both the common and scientific names aid the user of the text. This book is available for loan to Members from the Library's Circulating Collection.

Marier, Donald. *Wind Power for the Homeowner*. Emmaus, Pa.: Rodale, 1981.

Donald Marier, an electrical engineer and editor of *Alternative Sources of Energy*, has written *Wind Power for the Homeowner*, a clear concise manual on the setting-up of wind power systems. Readers can find out whether wind power is suitable for their location, the economics of installation, ordinances and codes that regulate the systems, types of equipment and what appliances can be operated from a home system. The book contains numerous illustrations, tables, charts, graphs, and appendices. This volume is available for loan to Members from the library's Circulating Collection.

The Arboretum's library, located on the first floor of the solar-heated Plant Science Building, is open for visitation from 9 a.m. to 4 p.m. weekdays (closed for an hour at noon).

Visitors to the Arboretum are urged to contribute back issues of gardening, horticulture, and alternative energy magazines.

Ink Painting Botanicals

An exhibit of 30 drawings by Elayne Seaman entitled "Botanicals" is currently on display at the Arboretum's Plant Science Building and Gifford House Education and Visitor Center, both on Route 44A (Sharon Turnpike).

"Ink painting with incised drawing on scratchboard is the medium I use to interpret my tactile point of view," says Mrs. Seaman. Her exhibit at the Arboretum will be displayed through August 17th.

Well known locally for her scratchboard drawings in black and white, Mrs. Seaman's exhibit at Cary features full-color ink paintings on scratchboard depicting flowers such as fuchsias, snapdragons, roses, Queen Anne's lace and tulips from an artist's point of view.

Mrs. Seaman has exhibited extensively in New York State and Connecticut group, invitational and one-person art shows. Among others, her work has appeared at the Salon de Artistes Francais in Paris, France, at Vassar and Dutchess Community Colleges in Poughkeepsie, Caravan House Galleries, at the Gracie Square Art Show, and the Hansen Galleries, all in New York City.

Gallery hours at the Cary Arboretum are weekdays, 8:30 a.m. to 4:30 p.m. and Sundays, 1:30 to 3:30 p.m. Mrs. Seaman's work can also be seen at the Arboretum's Gifford House on Saturdays between 1:30 and 4:30 p.m.

People at the Arboretum



Julie Morgan, Secretary . . . Originally from southern Connecticut, Julie has a diverse background of traveling and "working with words."

An English major, she graduated from Rollins College in Winter Park, Florida. "I've always sandwiched work with travel," she says. After working for *Look Magazine*, answering "letters to the editor," she departed for a trip to Europe, visiting Norway, England and France.

Upon her return, she took up employment with Meredith Press, where she edited children's books.

Her next trip took her across the country, and returning east, she took a job as assistant children's book editor with the J.B. Lippincott Company.

After the birth of her children Hannah, now 13, and Miles, 11, Julie free-lanced as a copy editor and wrote four children's sports books which were published by Lippincott.

Her home in Millerton offers a peaceful setting for her hobbies which include gardening and reading contemporary fiction. She is currently pursuing a Master's Degree in English at S.U.N.Y. New Paltz.

At the Arboretum, Julie is secretary to five scientists whom she describes as "a staff with very active schedules and many deadlines."

"When I moved to Dutchess County from Manhattan," she recalls, "I didn't know much about trees, plants or gardens." As a result of independent study, supplemented by her daily contact with the Arboretum staff, Julie now confidently identifies trees and birds on her daily walks along the Arboretum's internal road system.

"The people in this organization are a great source of stimulation," she says, "and the environment here is a pleasantly busy one."

Shop Talk

by Sandra Reilly, Plant Shop Manager

During the hot, sunny days of summer, one of the coolest spots is the Gifford House at the Cary Arboretum. Located on Route 44A (Sharon Turnpike), this Victorian brick house, shaded by large maples, is a cool retreat from a hot summer day. Both the plant and gift shops will be open throughout the summer for visitors and "Friends" of the Arboretum.

Because of the dappled shade in the plant shop this time of year, we are featuring foliage plants which do not require strong sunlight. These plants include peperomias, ferns, ivies, small terrarium plants and foliage hanging baskets. All these plants thrive in indirect light and temperatures between 65°F and 75°F.

Peperomias must be allowed to dry out slightly between waterings while the ivies, ferns and terrarium plants should be kept evenly moist. Hanging baskets usually dry out faster than other plants during the hot summer days so they must be checked often.

In our gift shop, there are many books on gardening and plant-related subjects to read while relaxing in the summer sun. For your work in the vegetable or flower garden, we currently stock many tools as well as gardening aids. As always, the gift shop has a wide selection of unusual gift items for birthdays or other special/summer occasions. Shop hours are weekends, 1:30 to 3:30 p.m., and weekdays, 11:00 a.m. to 4:30 p.m. (closed Mondays). We look forward to seeing many of our friends during the summer months!

Dr. Karnosky Receives Grant

A two-year grant from the USDA Forest Service Consortium for Environmental Forestry Studies in the amount of \$24,149 was recently awarded to Arboretum Forest Geneticist Dr. David Karnosky to pursue studies of the relative air pollution tolerances of common urban trees.

According to Dr. Karnosky, 32 types of shade trees including cultivars of ash, English oak, European beech, ginkgo, honeylocust, London plane-tree, and maple, previously exposed to combinations of sulfur dioxide and ozone in the Arboretum's air-pollution chamber, have been planted in four test plots located in the greater New York City area. In this study, the specimens will be evaluated monthly during the next two growing seasons to determine the frequency, severity, and type of air pollution injury present. A ranking of the air pollution tolerances of the trees in the test plots will be made using an injury index system based on the percentage of trees injuries and the extent of foliar damage. This pollution-tolerance list will be compared to that previously developed from Dr. Karnosky's chamber tests of pollution tolerance.

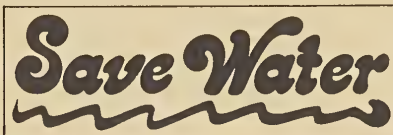
Two field plots in the Midwest involving over 100 tree types each, including many of the same tree types as in the New York City test area, will also be closely observed. The sites, located at the Secrest Arboretum in Wooster, Ohio, and the Morton Arboretum

in Chicago, will provide information for a relative air pollution tolerance test of species and cultivars available to arborists, nurserymen, and urban foresters who are planting trees in pollution problem areas.

Since the majority of air pollution tolerance studies involving trees have been done in either greenhouse or laboratory chambers, little information regarding the relative responses of trees to air pollutants in the field is available. Preliminary analysis of the field plots established by Dr. Karnosky on the Arboretum grounds has shown striking differences between chamber and field air-pollution tolerances since field exposures are more complex and variable.

The research, which is aimed at improving the survival and health of urban trees, relates directly to the Consortium's goal of enhancing urban environments through plant study.

In addition, Dr. Karnosky has been awarded a \$1,000 grant from the International Society of Arboriculture's Research Trust to help support this field study of air pollution tolerances.



Garden Work Continues

Throughout the summer months, major construction work will continue on the Gifford Garden located behind the Gifford House on Route 44A.

Expected to be one of the exceptional perennial gardens in the northeastern United States, specifications for new construction have been drawn up by architect Jim Flynn under the direction of NYBG Senior Vice President Carlton Lees and Arboretum Horticulturist Robert Hebb. During the summer months, construction work by staff members of the horticulture and operations departments will help prepare the garden for planting in the spring. Hundreds of tons of unsuitable subsoil must first be removed throughout the entire garden site, and be replaced by more suitable gravel and topsoil.

As part of the renovation, original deep concrete footings and garden walls, constructed in the 1920's, will be replaced, and irrigation and electrical systems will be installed. Brick paths will be laid and the garden beds reached for planting.

The Gifford Garden is a result of generous contributions from the Nine Partners Garden Club, the Millbrook Garden Club, the Cary Trust, and numerous donations by members and other friends of the Arboretum through the annual appeal. The garden will display a diversified array of perennials and will be accessible to all visitors, including the handicapped.

Sharing Nature is Fun for Children

Children in three age groups can enjoy the benefits of nature as the second annual children's summer program begins.

A program for children ages 11 to 14 is offered July 13 through 17, 9 a.m. to noon. The program will include workshops on stream life, birds and bird houses, dendrology and ethnobotany, as well as an ecology walk, nature crafts and flower drying techniques.

On July 20, 9 a.m. to noon, a five-day

program for children ages six to ten begins. Cultural uses of plants, fieldtrips, wild flower drying and arranging, leaf identification, nature games, tree ring studies and wildlife studies will be included in the workshops.

Parents of four-year-olds should attend the nature program for children ages four and five, which begins July 27, 9:30 to 11:30 a.m. The three-day activities for this age group includes leaf games, nature walks,

guitar and songs, story telling, crafts and insect studies.

Instructors for the programs will be Dr. Peter Dykeman, Charles Shaw, John Kemnitzer, Helen Manson, Sandra Reilly, Clarence Russell, Michael Krisch, and Jean Bartoes.

For information on class fees and registration, please call the Gifford House Education and Visitor Center, (914) 677-5358.

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of
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